



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,857	02/11/2002	Dominique Loubinoux	248556US55 CONT	8967

22850 7590 08/27/2007  
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
----------	--------------

1733

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

08/27/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/068,857	<b>Applicant(s)</b> LOUBINOUX, DOMINIQUE	
	<b>Examiner</b> Jeff H. Aftergut	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 30,31,44,47,52 and 54-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30, 31, 44, 47, 52, 54-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                           | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 30, 31, 44, 47, 52, and 54-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Middelman in view of any one of O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or Curzio and optionally further taken with either one of Vane or Matsuo et al for the same reasons as expressed in paragraph 2 of the Office action dated 7-13-06.

With regard to the language that at least 50% by weight of co-blended threads consisting essentially of intimately mixed glass and filaments of thermoplastic organic material, the applicant is advised that in each of the references to O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or Curzio suggested that in place of the thermosetting matrix material one skilled in the art would have utilized a blend of thermoplastic organic fiber and glass reinforcing fiber for the fiber material of the composite. Each of these references suggested the problems associated with impregnation with a resin material and clearly suggested that the intimate contact between the reinforcing fiber and the matrix fiber was desired (and thus each reference clearly suggested that one skilled in the art would have intimately mixed the glass fiber with the fiber of matrix material (thermoplastic fibers). Regarding newly presented claim 58, note that the co-blended threads of the references as discussed above each included a reinforcing filament (which included glass) as well as a thermoplastic matrix filament. Regarding claim 59, note that

Art Unit: 1733

Middelman suggested a single ply layer included a single layer of fibers which all lied in the same plane.

***Response to Arguments***

3. Applicant's arguments filed 7-16-07 have been fully considered but they are not persuasive.

The applicant argues essentially that: (1) Middelman suggested that one skilled in the art would have employed the impregnation operation as the assembly would not hold together absent the same and thus there is no reason to look to the references to O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or Curzio, and; (2) the references to O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or Curzio do not teach or suggest the "co-blended threads consisting essentially of intimately mixed glass filaments and filaments of at least one thermoplastic organic material". These arguments have not been found to be persuasive and are respectfully traversed herein.

To begin with, while it is admitted that Middelman employed a resin impregnation operation, the basis for the obviousness rejection is essentially that one viewing the prior art as a whole would have been deterred from impregnation in the usual sense as one would have desired to employ a matrix fiber which was a thermoplastic material in the operation in order to avoid the identified disadvantages with impregnation as established by the references to any one of O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or Curzio.

Art Unit: 1733

Clearly, one viewing the totality of the record would have understood that there were advantages to employing a blended thread of both thermoplastic matrix filaments and glass reinforcing filaments as such would have overcome the disadvantages of impregnation with a resin. As such, it would have been obvious to one of ordinary skill in the art to utilize a thread which was a blend of thermoplastic and reinforcing glass materials for the composite article in Middelman.

Regarding applicant's argument that the references to each one of O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or Curzio failed to teach the "intimately mixed" and "co-blended" filaments of glass and thermoplastic, the applicant is advised that the nature of the processing employed to for the mixed thread is not specified in the claim. The references to each one of O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or Curzio all suggested the mixing of thermoplastic and reinforcing glass filaments together to form an assembly which was a replacement of glass filaments which were subjected to impregnation with a matrix material. The manner of mixing the fibers together, whether it be by mixing in a braiding or twisting operation or mixing by associating the same together and contacting the individual filaments of the threads together, is not expressly recited in the claims and thus the applicant's arguments that the references do not teach the intimate blending of the fibers is not persuasive as the specific manner in which applicant performed this operation is not recited. The references to any one of O'Connor, NASA Tech Brief entitled "Solventless Fabrication of Reinforced Composites", U.K. Patent 2,190,041 or

Art Unit: 1733


Curzio in fact did blend the thermoplastic filaments and the reinforcing filaments in a manner which would have provided a matrix for the reinforcement which was equal to or better than impregnation with the matrix material in a coating operation.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jeff H. Aftergut  
Primary Examiner  
Art Unit 1733

JHA

Application/Control Number: 10/068,857

Page 6

Art Unit: 1733

August 20, 2007